

North Nashua River Master Plan...

Walking paths • Housing • Businesses • Water Access • Views • Redevelopment • Art • History • Parks



Walking paths • Housing • Businesses • Water Access • Views • Redevelopment • Art • History • Parks

...industry runs through it

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Introduction

The North Nashua River continues to be a tremendous resource for the City of Fitchburg, its miles of riverbank and rushing waters a treasure in the heart of an urban core. The river is the intersection of the City's past and its future. The ideas presented on the following pages are intended to get the Fitchburg community thinking about the river and the many opportunities to integrate the river into the fabric of the City. This report is only a conceptual master plan; the ideas presented here are intended to be refined - to change and evolve - as they are designed and implemented. Moving to design and implementation is as much a function of commitment by the citizens of the City as it is a function of market conditions, funding, and opportunities. This plan is for the people of Fitchburg to use to see their dreams for the North Nashua River come to fruition.

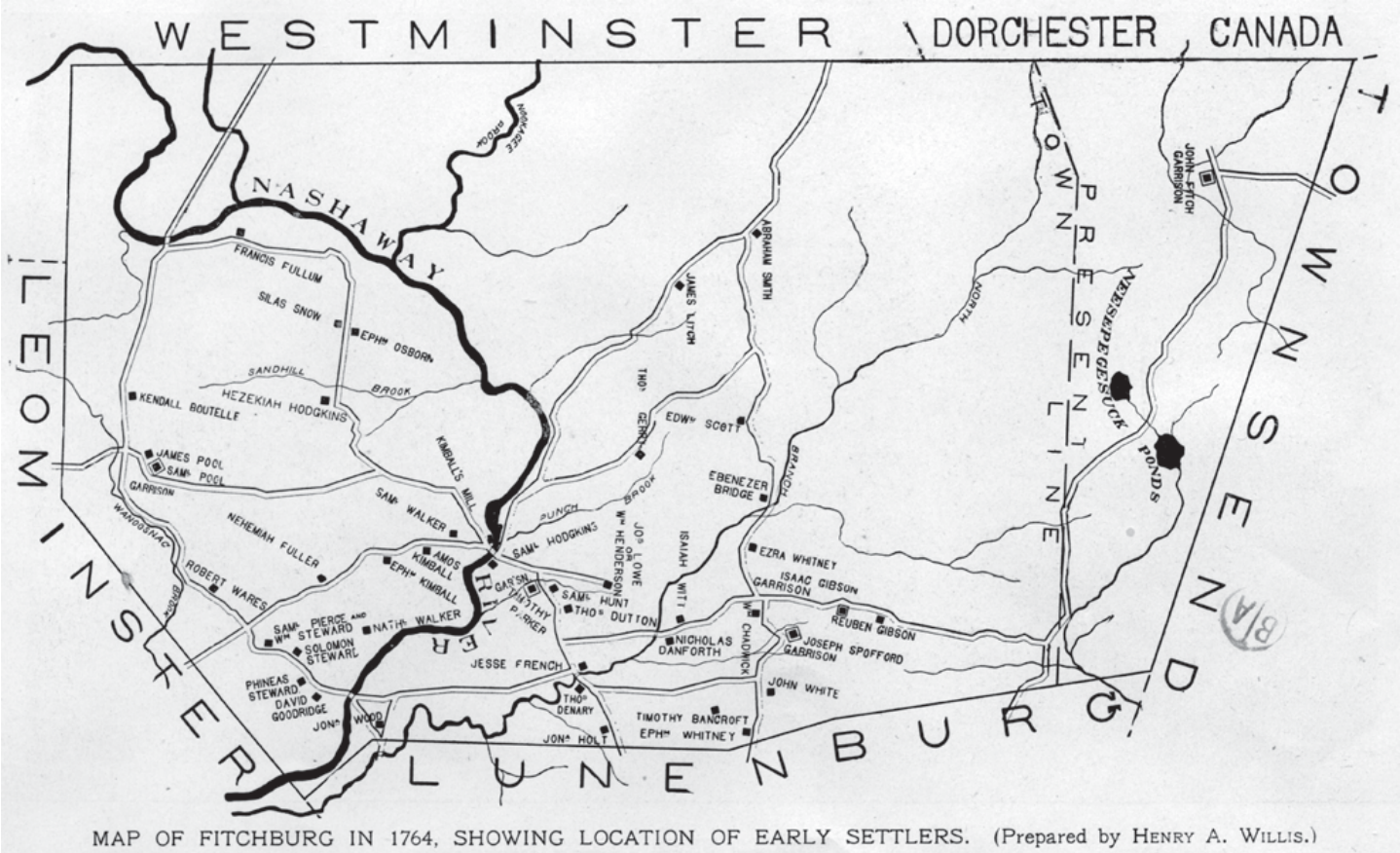
This planning effort was funded and directed by the Riverways Program of the Massachusetts Department of Fish and Game in cooperation with the City of Fitchburg. The advisory group (members listed to the left) provided valuable insight on both City and private initiatives along the river.

A public workshop brought many people interested in the river together to share ideas; those ideas provided the primary input to this plan. This document is a summary of those and other ideas. It is intended to be: a guide for future planning; a document that will raise awareness of and formalize ideas for reclaiming this important asset; and, a preliminary list of projects and next steps that will help improve access to and activity along the river.

The river winds its way through the City. Although not visible in many locations, it is present in the minds of many residents. This drawing from the famous children's book about the cleanup of the Nashua River, "A River Ran Wild" by Lynne Cherry, exemplifies the image residents would like to become a reality.



History



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Fitchburg was originally a farming community and as shown in the 1764 map, the river was not central to the town - the major roads did not parallel the river (#1).

Granite from Rollstone Hill was quarried to build the beautiful walls, bridges and buildings, many still in existence today. Natural stretches of the river and areas with artifacts of the city's rich industrial heritage provide opportunities for exploring nature and for interpreting the city's rich history (#2).

By 1804, mills were being developed and bridges had been built to create mill ponds. The river was vital to the industrial economy and eventually approximately 18 dams were built along the river (#3).

In 1874 the Hoosac Tunnel opened the west via the Fitchburg railroad line and Fitchburg became an important industrial center (#4).

Industrial decline left many decaying buildings and a polluted river. The North Nashua River in the mid-1960s was badly polluted with industrial wastes (#5).



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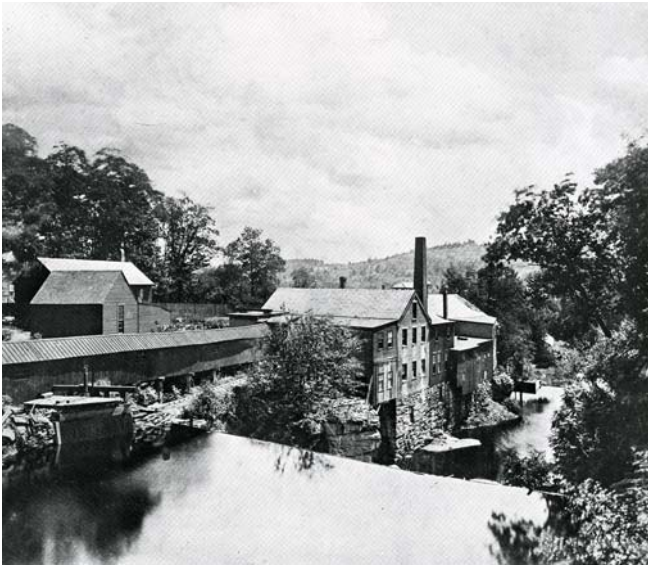
In 1962 Marion Stoddart organized the Nashua River Cleanup Committee. The cleanup was helped by the 1965 passage of the U.S. Clean Water Act, the building of a new water treatment plant built by the paper companies along the river, and 400-500 youths who spend five months clearing trash from the riverbed and banks.

By 1979, bass, pickerel, perch, trout, bald eagles, osprey and great blue herons had returned to the river.

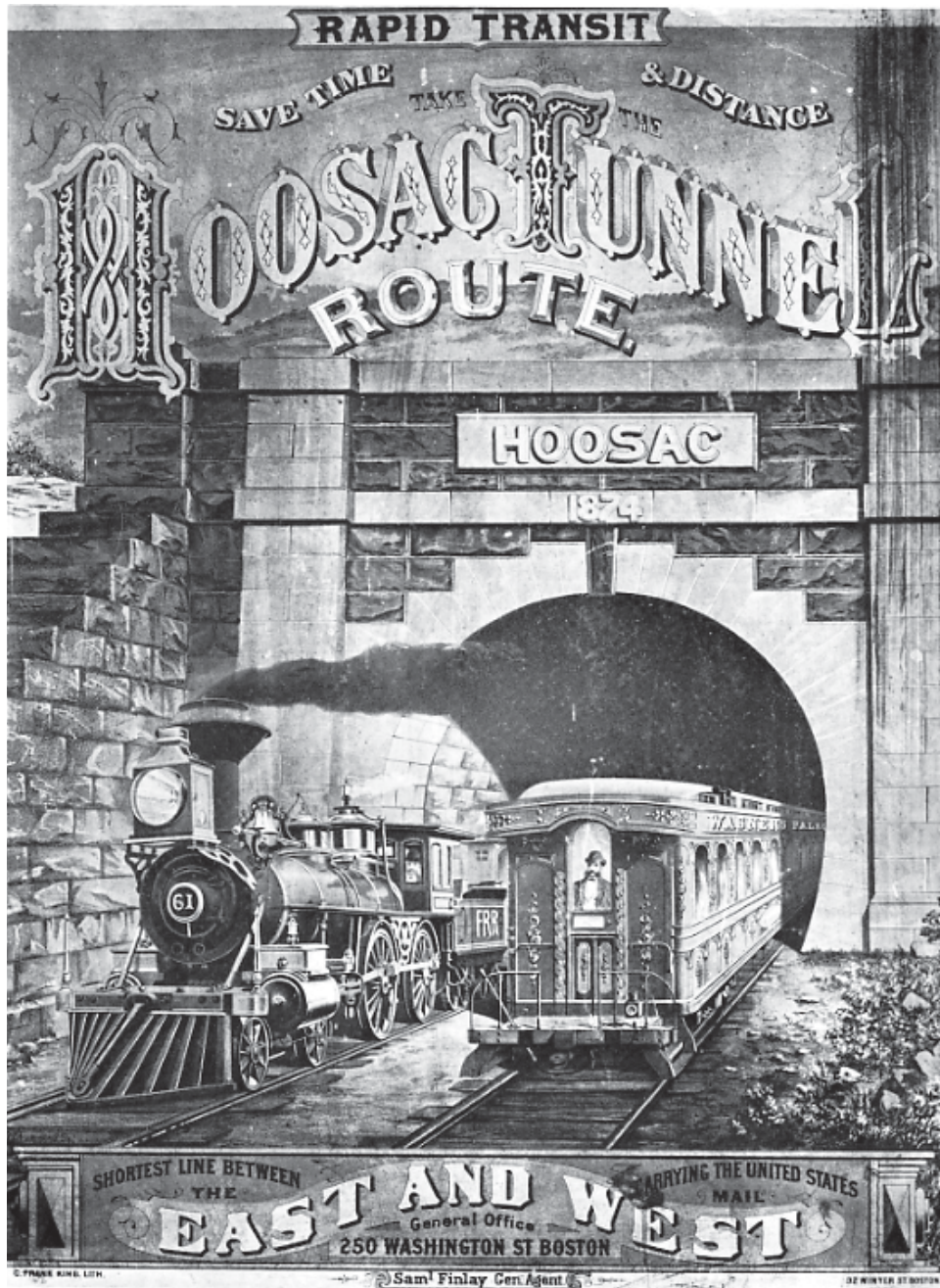
The North Nashua River in the 1980s after two decades of cleanup. The river is visibly cleaner though there are still challenges remaining in the cleanup of the river and adjacent lands (#6).



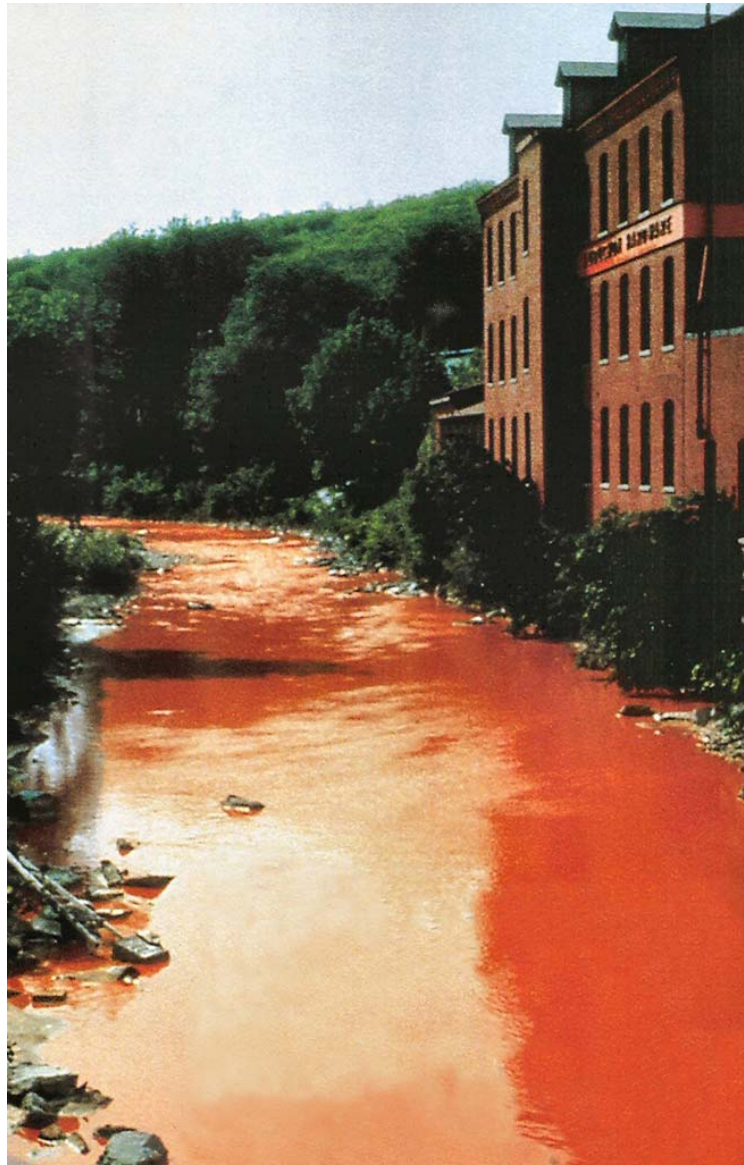
Stone Mill



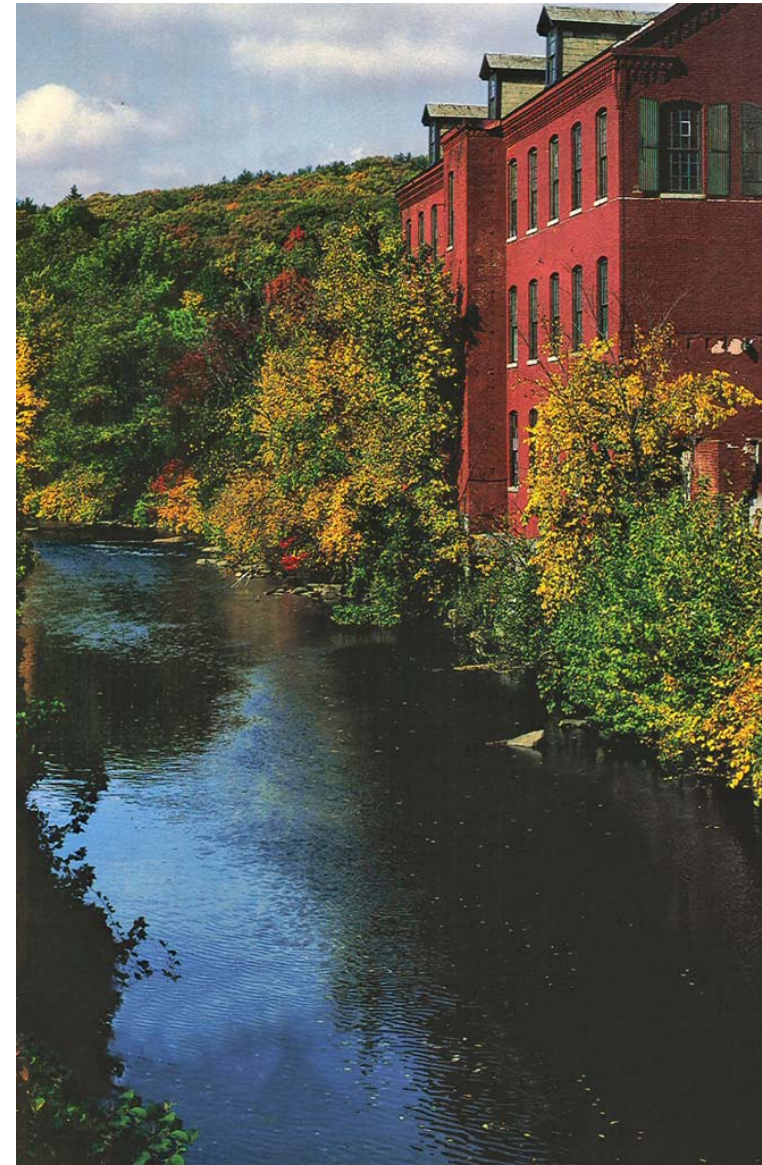
Crocker Burbank Mill



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Successful Riverfront Examples

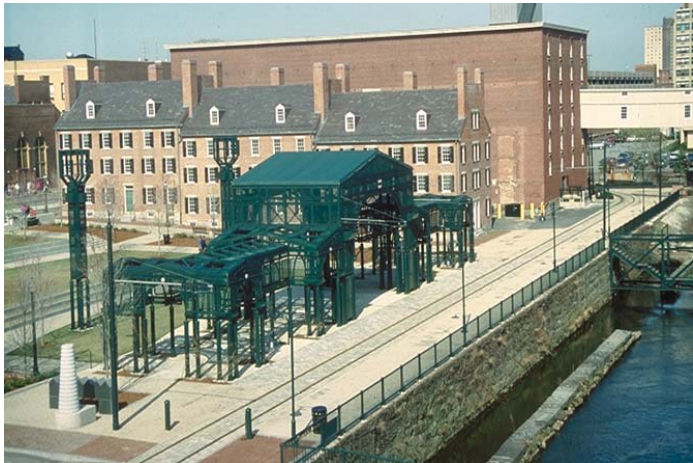
Developing a library of images from other places is a good way for the City and river advocates to generate and communicate ideas for various places and types of development along the river. Researching projects in other cities and towns may also lead to creative ideas about funding and opportunities to piggy-back river projects on transportation and infrastructure projects, or private development efforts. As projects in Fitchburg develop, and reach the design stage, the image library will be valuable as a tool for the City and the public to communicate design ideas to landscape architects. This page includes some examples used in the workshop.



Riverbank restoration along the Mystic River in Medford: this pilot project was developed as part of a larger park. If successful, it may be used to reintroduce native wetland species to other portions of the Mystic River’s edge. Native plants provide valuable habitat for birds, mammals and reptiles, improve riverfront aesthetics and help protect the river.



Before and after photos of Boarding House Park in Lowell: this small open space and shelter along the canal provides amenity for surrounding housing and offices in rehabilitated old industrial buildings. This park also serves as a venue for a range of events including the nationally recognized Lowell Folk Festival.



Places to sit and enjoy the river are just as important as paths along it. These river edge spots can be parks with benches and tables for picnicking or simple crow’s nest style alcoves along a boardwalk or bridge edge.



Walkways along river edges can take many forms, from a simple rail and stone dust path, to a cantilevered boardwalk style path, to a more rural style walkway with a wooden fence and vegetation acting as a natural buffer helping to provide wildlife corridor, habitat and pollutant attenuation.

Plan Overview



Potential Pipeline Linear Park



A view from the road



Historic Mills



The river downtown



View of the river at Duck Mill Pond

The North Nashua River Master Plan focuses on seven types of opportunities. Some are long-term efforts while others could be implemented in a shorter time frame. The opportunities include:

- **Public access to the river.** Getting people to the river's edge and on the water can be accomplished by developing pathways along the river or boardwalks that extend over the river to circumvent obstacles or sensitive natural habitats, and by finding places where the water's edge could be accessible to pedestrians, especially children, and boaters.
- **Visual access to the river from roads, sidewalks, and bridges.** There are many scenic sections of the North Nashua River as it passes through Fitchburg that are hidden by brush. Clearing brush in strategic locations, with proper approvals and safeguards, will open views of the river that enhance the aesthetics of the city. Existing businesses also should be encouraged to take advantage of river views.
- **Rehabilitating existing riverside buildings and brownfields.** The restored river offers new economic opportunities for local business people to capitalize on its beauty, e.g., locating cafes and shops facing the river and rehabilitating old mills. The long industrial history of Fitchburg has left a number of handsome mill buildings along the banks of the river. Redeveloping these for loft housing, artist live/work space, or traditional office space will bring activity to riverfront walk-

ways and provide eyes on the parks for safety. In addition to the mill buildings, industry has left some contaminated industrial sites along the river. The future use of these sites may be regulated by the level to which they are cleaned; planning for reuse should start early to influence remediation strategies and designs that promote environmentally sound reuse.

- **New and improved public open spaces along the river.** There are a number of locations, such as the Central Steam Plant, the Sheldon Street parcel, the Fitchburg Savings Bank site, and the parking lot across from the new downtown Riverfront Park where, in addition to a river edge walkway, a generous open space is possible. Some of these locations may be appropriate for open space and mixed-use development.
- **Opportunities to tell the story of the river and its industrial history.** Incorporating public art into riverfront parks and new development provides an opportunity to support Fitchburg's art community and bring people to the river. Art exhibits could be permanent installations, temporary/seasonal exhibits, or various other forms of environmental art that would generate interest and activity at points along the river. Exhibits that interpret history and tell stories about the natural or industrial history of the area are also informative and educational. These could be sponsored by the local historical groups and/or be developed as part of school curriculums.
- **Improving river health and connectivity.** The City and advocates have the opportunity to guide redevelopment of river corridor sites to produce the most environmentally sensitive plan practicable. These efforts can reduce nonpoint source pollution and combined sewer overflows. Finally, the numerous dams on the river disrupt natural flows and impact the river habitat. Assessing the removal options for select dams could improve passage for fish, other aquatic species and boaters while improving water quality. The dams do not provide any flood protection function. The City and river advocates have been working with the Army Corps of Engineers on an assessment to determine possible restoration projects to improve fisheries, habitat and water quality.

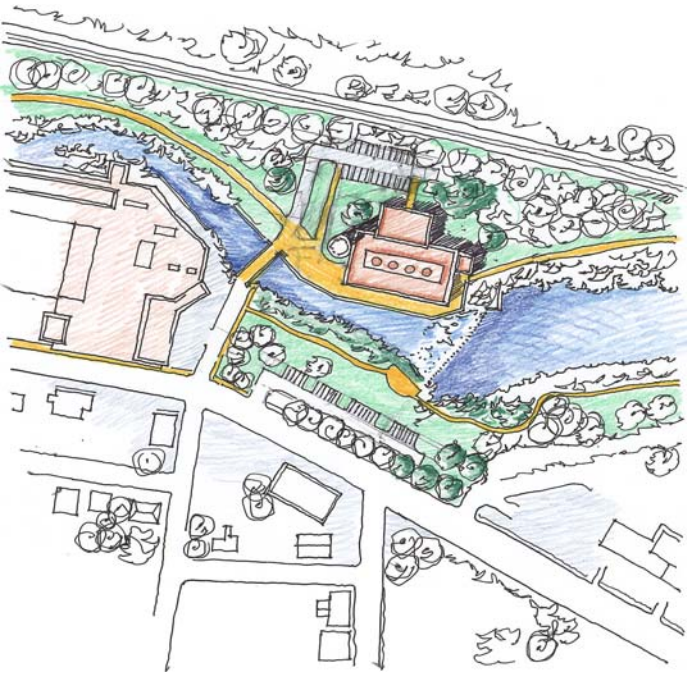
- **Programs and events that raise public awareness of the river.** In addition to capital projects there are a number of events and activities the City, citizens groups, property owners, and residents can organize to generate and maintain interest in the river. These include organized clean-up days, organized canoe or kayak trips and races, narrated walks, water monitoring, river art projects and exhibitions, and other activities that celebrate the river. The last section of recommendations details some of these ideas.

Because the study area is long and diverse the report breaks the river into loosely defined segments. The segments are the same scale, but also thematic and based on characteristics of the river. They are:

- **Pipeline Park** - Running through (and slightly beyond) this segment is the steam pipe that could, relatively easily, be developed into a linear park and river edge walkway.
- **Riverview Drive:** This segment of the river has fewer (or longer-term) opportunities for walkways, but there are scenic portions of the river that could be made visible from the road with little effort and expense.
- **The Mills at Fitchburg:** This area is dominated by mill buildings providing opportunities for redevelopment and associated open space. Some, such as the Massachusetts Innovation Center, are underway while others will require longer term investment.
- **Downtown and Riverfront Park:** There are only a few places downtown where river edge commercial or residential uses, open space, or continuous pathways can be developed, but the downtown riverfront is an important resource. Improving connections along streets that cross the river is a key part of the recommendations in this part of the river.
- **Duck Mill Pond:** The easternmost section of river is the widest and most dramatic in terms of large bends, big pools and both steep and flat banks. There are two large development opportunities along this end of the river; both will require environmental remediation.



Pipeline Park



Falling water at the dam near the Central Steam Plant provides a scenic vista. Plans for the site's reuse should take advantage of views of the water.

Conceptual drawing of Steam Plant (#2) and Pipeline Path (#1), showing path and parkland along both sides of the river.



There is a 10 to 20 foot flat path that follows the route of the pipeline. This flat area could provide a bed for a paved or gravel pathway and the slope could be planted with native vegetation (#1).



The feasibility of building a walkway along the pipeline as it passes under the rail road bridge should be explored (#3).



View of pond from West Side Treatment plant. If surplused, this property would be an attractive site for housing or mixed use development.



Conceptual section of pathway under stone arch bridge (#3).

1. Pipeline Path: The remains of the steam pipe that follows the river provides an opportunity to create a multi-use path for almost two miles along the river's edge from Depot Street to the Fifth Mass Pike. This linear park should have design elements providing both environmental and aesthetic benefits. The pipe itself, if left in place, could provide an interesting addition to the path. Most of the existing route has a flat area next to the pipe that would provide a bed for either a paved or stone dust path. The largest physical impediment to the creation of the Pipeline Path is access. The former Central Steam Plant site is a logical access point (see #2).

2. Central Steam Plant: This site, recently acquired by the City, could be developed in a manner that provides access to the pipeline path on the south side of the river. Whether it is developed for commercial use or only as an access point to the pipeline path, there is space for parking and potentially an interpretive exhibit that informs path users of the history of the steam powered mills. Planning future uses of this riverfront location should be done in an environmentally sensitive and proactive manner. The City has a grant to conduct an environmental assessment of the site.



The late 19th century former Central Steam Plant, a magnificent masonry building with dramatic arched windows, is silhouetted against the natural environment of the forested hillside above, with the river below. Plans should be developed for saving all or a portion of this brick structure (#2). At night, light from the windows will create vertical bands of light against the dark hillside, which will reflect in the pool and river below.

3. Stone Bridge: The stone railroad bridge (1886) at the upstream end of the study area is an attractive and historic hidden treasure along the river. To provide access from the road at this end of the pipeline, a walkway would have to be constructed along the route of the pipeline as it passes under the bridge. An access point or terminus at this point could be very dramatic.

4. Triangle Parcel: The parcel between Princeton Road and the railroad tracks is a potential location for parking near the western end of the path. There have also been discussions of using this site as a commuter parking lot and train station for a proposed extension of the Fitchburg commuter rail line from its current terminus in downtown Fitchburg. A station and parking lot would complement this location as a path access point.

5. West Side Water Treatment Plant: The two highlighted water treatment plant parcels provide opportunities for long-term redevelopment (the plant is currently underutilized and may go off-line). In conjunction with the proposed commuter rail extension (#4) they would be ideal mixed-use (residential and commercial) Transit Oriented Development sites. All potential development sites with riverfront access should provide a publicly accessible walkway with significant open space serving as a buffer along the river. Because these parcels are publicly owned, additional riverfront land should be set aside for riverfront open space. The northern parcel fronting on the pool has an excellent view of the river and falls - opportunities for short term public access to the northern end of this property should be explored.

6. Connector Paths: In the long term, opportunities for additional paths around the pond in the river and up to Snow Mill Pond should be explored. The routes of these paths will have to be explored and easements across private property secured. A path around the pond in the river could also be used to provide access to Pipeline Path from Princeton Road.



Riverview Drive



The sitting/picnic area at Mill #3 is an excellent example of a private property owner taking advantage of a riverfront location and providing public access and a pleasant place for customers.



The stairway from the residential area of West Fitchburg should be restored to provided a direct connection to the river at Mill #3 (2).



Rain gardens may be used to improve the river’s edge along River Street, while also filtering rain runoff before it enters the river. The Great Barrington Land Trust raised funds from a variety of sources to create a River Walk Rain Garden at the entrance to the Housatonic River Walk in Great Barrington (shown in photos above).

This stormwater enhancement project illustrates how natural systems can help clean stormwater runoff from urban areas by creating a man-made wetland, planted with flowering wetland species, filtering and infiltrating the water before it returns to the river. There is signage to inform the public about the project and how the rain garden contributes to river protection (3).

1. End of Pipeline Path: The Depot Street bridge is the downstream end of the pipeline. At the bridge there may be an opportunity for a path access point and a small parking area. Land could be purchased or an easement could be provided to allow for a public parking area.

2. Neighborhood Connecting Path: Mill #3 is one of the few private businesses taking advantage of its riverfront location by creating a sitting/picnic area on the edge of the property. It should be considered a model for how private property owners can provide visual and/or physical access to the riverfront. The historic staircase across Westminster Street from Mill #3, between residential streets in West Fitchburg and Route 2A, should be restored to provide direct access between the neighborhood and the Mill #3 riverfront.



Cleaning brush from this section of River Street would provide both drivers and pedestrians a view of the river and the Crocker Mill on the other side.



The river and Crocker Mill from the Oak Hill Road bridge.

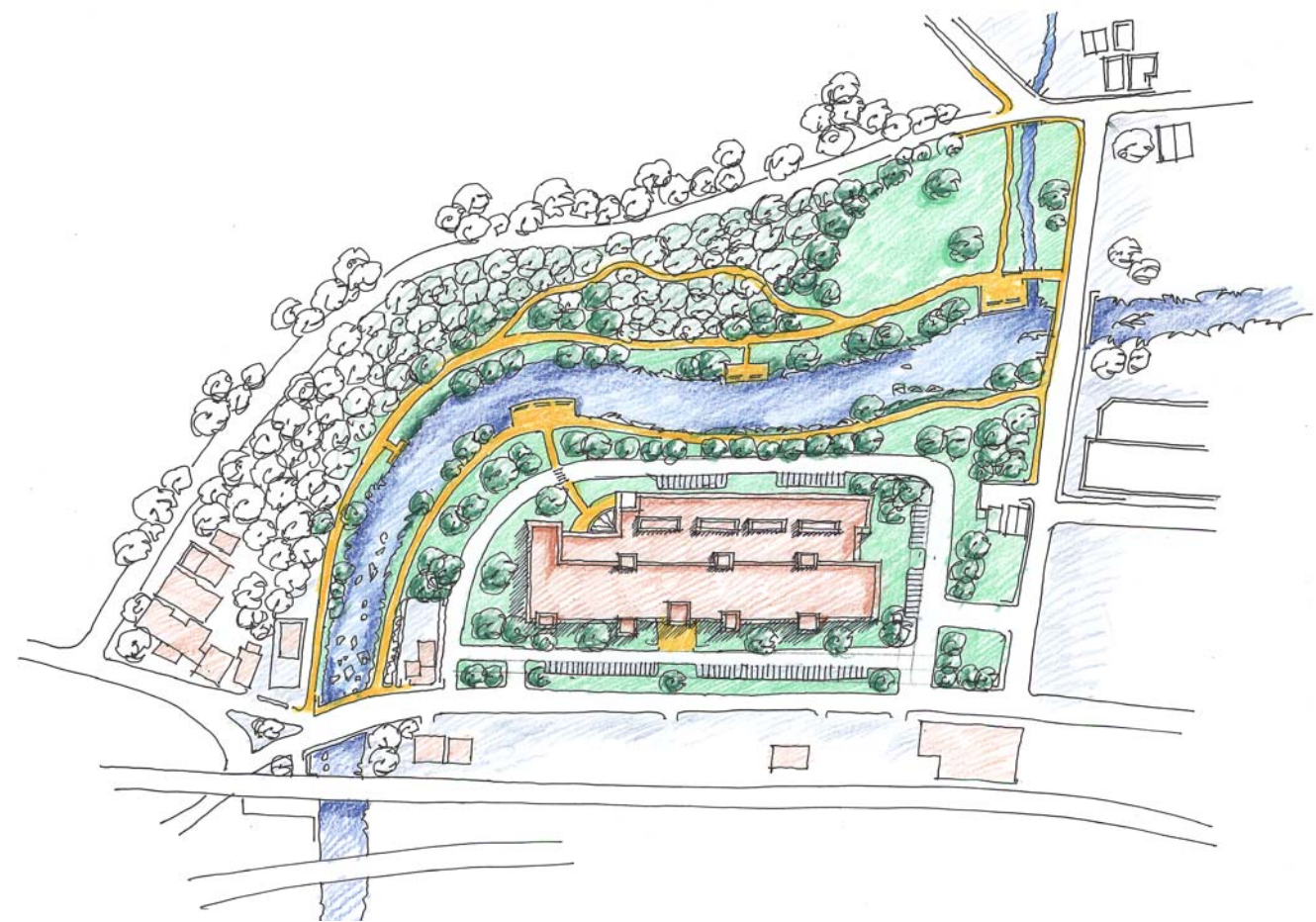
3. Riverview Drive: There are portions of the river in this segment where pathway development will be difficult because of multiple property owners and narrow river banks. Along River Street there is an opportunity to provide improved visual access to the river by clearing brush, much of it invasive plants like Japanese knotweed. Once cleared, the river will be visible to both passing drivers and pedestrians on the sidewalk. Depending on the condition of the road edge, this may also be a place where “rain gardens” could be established to both filter roadway runoff and provide an attractive edge to the river. In the long term it may be possible to build a river edge pathway along this narrow strip, but providing visual access from the road will benefit the most people.

4. Long Term Pathway: Along the southern bank of the river between Depot Street and the Mass Innovation Center there are only a few property owners, but a large portion of the property is actively being used for the Munksjo Paper Mill. Implementing a path across these properties would require cooperation with existing property and business owners. The other obstacle along this segment is the railroad bridge near the end of River Street; passage under or over the railroad would also be required. Because the arches of this bridge are high, it may be possible to build a relatively inexpensive boardwalk style bridge through one of the arches. If implemented, a path along this segment of river would extend the pipeline path an additional 0.8 miles.

5. Massachusetts Innovation Center: The MIC is a logical location for a path-end parking lot. The parking lot at the MIC is under-used on weekends and could be used as an access point to the path. Additional recommendations for the MIC area are suggested in the next segment.



The Mills at Fitchburg



Sketch of potential mixed-use mill redevelopment at Sheldon Street (#3), with paths along both sides of the river. The vacant Sheldon Street parcel is shown as a park, with the stream (currently in a culvert) opened up to daylight.



The Massachusetts Innovation Center is an excellent example of creative reuse of an existing mill.

1. Massachusetts Innovation Center: The MIC is an excellent example of mill reuse and should be an inspiration for other mill rehab projects. Although the building's location close to the channelized river limits riverfront access, the mill rehab and charter school within it have brought renewed interest in Fitchburg's industrial history and its historical relationship to the river. The courtyard at the MIC would be an excellent place for a public art installation or an exhibit interpreting the industrial history of Fitchburg and the river. Consideration should be given to decreasing the amount of nonporous paved surface and the use of innovative stormwater treatment techniques (e.g. porous pavement) at this and other redevelopment sites.

2. Sheldon Street Parcel: This site provides an opportunity for the City or a developer to secure a large portion of riverfront property with good access from Sheldon Street. The site would make an excellent neighborhood park and provide amenity for redevelopment of adjacent mills. If



The vacant parcel along the river at the Sheldon Street bridge provides an opportunity for a neighborhood park or development or a combination of both (2).



The handsome mills along the river would make excellent housing or office space while also providing an opportunity for river edge open space and a natural vegetated buffer along the river. A walkway easement behind the Premier Box Co. building is a astute condition of the owner's special permit for residential use (3).



A wall and a stand of large pine trees limit access and views of the river from Crocker Field (5).

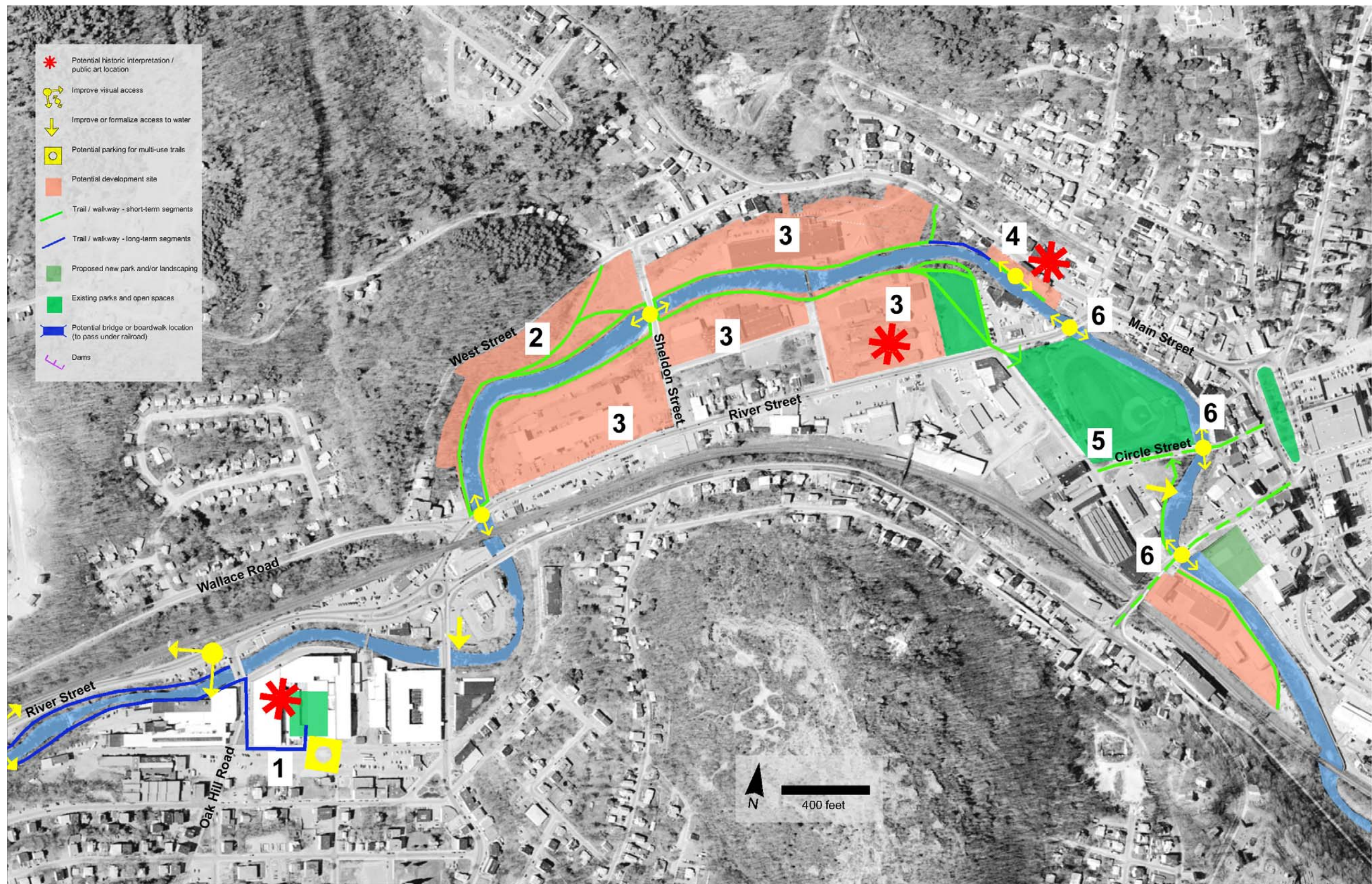
not developed as a park, development on this site should be required to provide publicly accessible riverfront between Sheldon Street and the River Street bridge and to incorporate environmentally sensitive design elements to reduce nonpoint sources of pollution. This site is a natural conduit to the Crocker Conservation Area only a half mile to the north.

3. Mill Rehabs: A number of mills along this segment of the river provide excellent redevelopment prospects. Some are vacant or partially vacant while others house active businesses. Redevelopment potential includes housing and/or office space depending on market conditions. Site plan review of redevelopment proposals should require a publicly accessible riverfront walkway and open space to bring activity to the river's edge and provide visual oversight of river-edge walkways and parks. The mills in this area would be an interesting place for an interpretative exhibit.

4. Robichaud Building: The Robichaud building is currently being used for storage, but the owner is interested in developing it for more active uses highlighting the river. The owner is very supportive of initiatives to improve access to the river and currently plans to include riverfront access on his property, potentially even a cantilevered walkway over the river. Photos on page 5 illustrate the dramatic before and after pictures of the river cleanup.

5. Crocker Field: Access to the river's edge at Crocker field will be difficult because of the wall lined with large pine trees along the northern edge of the field. As a public open space Crocker Field can play an important role in linking paths and open spaces in downtown and the mill area to the west. Rehabilitating the edge of the field along Broad, River and Circle Streets would provide an attractive link between the proposed paths ending at the practice field and the bridges leading to downtown.

6. Bridges: The bridges crossing the river provide good views of portions of the river that are not physically accessible except at Circle Street. As bridges are reconstructed the feasibility of including places to sit and enjoy the view should be explored.



Downtown Fitchburg & Riverfront Park



Sketch of new riverfront open space on the vacant Fitchburg Savings Bank parcel, with new development on the existing DPW site (#2). A riverfront path connects to Main and Boulder Streets as well as to Crocker Park.



Sketch of potential mixed-use development at the Power Plant site (#6), showing a central open space and riverfront path. The development is shown connecting directly to the downtown Commuter Rail station.



The vacant riverfront site behind the Fitchburg Savings Bank provides an ideal location for a new park (1).



The former Fitchburg Gas and Electric site is located at a scenic bend in the river. The large brownfield site could be developed for many uses if cleaned up to the appropriate level (6).

1. Fitchburg Savings Bank: The Bank is interested in developing an open space on a one acre vacant site they own on the river along Rollstone Street. The Bank currently uses the vacant land for informal outdoor activities. The City should encourage the development of a more formalized, publicly accessible (at least during bank hours) open space.

2. DPW Site: Across the river from the Bank site is the City’s Department of Public Works yard and garage. Although the downtown site is convenient for DPW activities, reuse of the site as a park or for residential or commercial use with a linear park along the river edge would be a valuable addition to downtown and the riverfront. Because the City owns the site, development of a publicly accessible river edge can be made a condition of any disposition. If the bank site across the river becomes a park, development on the DPW site would benefit from the views across the river to the park and downtown. In the interim, best management measures should be instituted to reduce any adverse impacts to the river from this site.

3. Riverfront Park: The new riverfront park is entering its second season and has proven a great asset to downtown. The park, directly on the river with views of the swift river flows and the skyline, offers a large open space to businesses, students of Fitchburg State College and residents. A new bandstand, currently being designed, will be a welcome addition, allowing for a variety of park events and bringing more people to the park. The City also is moving ahead with plans to rehabilitate the pedestrian bridge, providing an additional access point to the park, a great view of the river and a hint of history. In the future, the stretch of river along the park may also be considered a potential site for a whitewater park and associated events. This river segment is under study by the Army Corp of Engineers for possible in-stream restoration work. The riverfront park would be a good place for a public art installation and/or arts related events (see page 20).

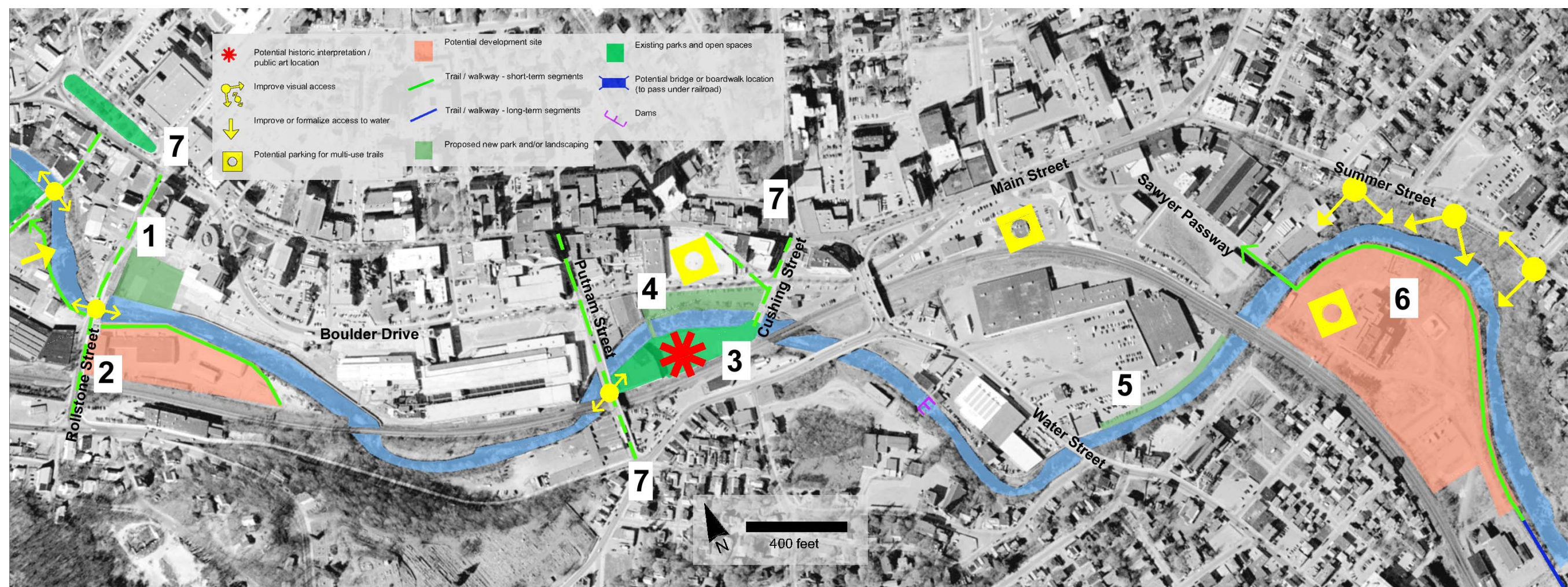
4. Park Expansion: The original concept for the riverfront park was a two-sided park with the river running through the center – development of a park on the north side of the river would make a very dramatic addition to the ex-

isting park. Today this site is a surface parking lot with about 90 to 100 spaces. The City should work with local merchants to relocate the parking spaces in order to develop a complementary park on the downtown side of the river.

5. Market Basket Parking Lot Edge: The river is channelized as it passes under Water Street and along the edge of the Market Basket parking lot. Because this lot is rarely full to capacity it may be possible to reclaim the edge closest to the river and create a 20 foot swath of native plants. This planting strip would screen the view of the parking lot from the Water Street bridge and from the properties across the river. It could potentially provide a natural filter for water running out of the parking lot. Ideally, pervious pavement could be installed on part or all of the remaining parking area to further reduce runoff into the river. A walkway along this edge of the river is not recommended because of limited access at both ends.

6. Power Plant Site: The large vacant site at the bend in the river is large enough for a major redevelopment. Its location within a five or six minute walk to the Commuter Rail station makes it attractive as a Transit Oriented Development site with housing and/or commercial uses. Any proposed use of this site should take advantage of and provide access to the sweeping bend in the river. This brownfield site will need to be cleaned up to prescribed levels depending on planned future uses. The City should continue pursuing clean-up funds and activities to prepare this site for redevelopment. In the short-term, the feasibility of fencing off the contaminated portions of the site and providing a temporary walkway along the bend in the river should be explored.

7. Connector Streets: Because there is little opportunity for a continuous path along the river through downtown, it is important that streets connecting to riverfront parks and opportunity sites be well landscaped and pleasant to walk along. Providing strong connections between venues along the river and downtown will bring visitors and economic benefits to downtown businesses.



The view of the river at the Market Basket would be improved with a well landscaped planting strip to screen parking (5).



The DPW site across the river from the Fitchburg Savings Bank would be an excellent development site if the DPW is relocated (2).



Streets and bridges connecting downtown to the river should be attractive and well landscaped.



The small scale of Circle Street provides an excellent pedestrian connection between the green, Crocker Field, and the river but streetscape improvements are needed.

Duck Mill Pond



The new Fifth Street Bridge is an icon easily seen from many directions. Although the river is not very visible from the surrounding streets, there is an excellent view from the bridge (4).



Downstream of the Mill Pond the river widens out and the banks are low. On the left is the overgrown edge of the former Great American Chemical Site.

Views of the river from the 5th Street Bridge



1. Twin City Rail Trail: The proposed Fitchburg to Leominster multi-use path follows a rail right-of-way rather than the North Nashua River, but it will bring people to a site at the river's edge. The multi-use trail will be a catalyst for the development of future river edge trails. The Fitchburg terminus of the trail is very close to the river and a large opportunity site (see recommendation #3). Providing a small parking area at the terminus of the path will make the path accessible to local neighborhoods and residents who live further away. Because the proposed



Before and after views of the Davis-Alewif multi-use path in Cambridge built on an abandoned rail line. A number of years after this path opened, it was extended, as the Minuteman Bikeway, 11 miles to Bedford, MA. The City of Somerville has been working for a few years to build a path to connect the eastern end of the Alewife-Davis path to the Lechmere area and the Charles River Bikeway system.

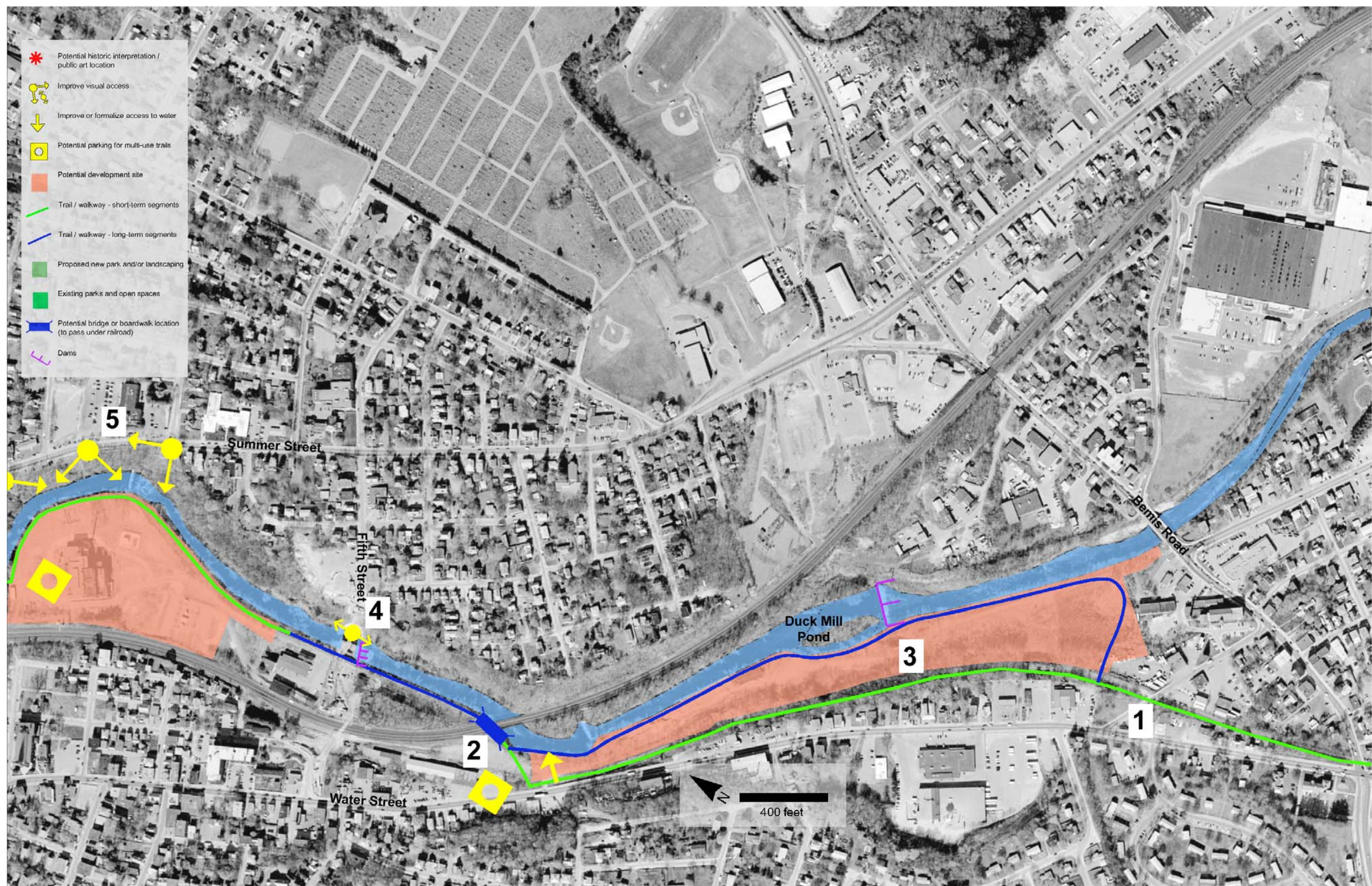
trail ends at the river, the parking area could be designed to include a river overlook and be located as far from the riverbank as practicable.

2. Trail Extension: The end of the multi-use trail is only a short distance from the Fitchburg Gas and Electric opportunity site and the large bend in the river. The largest obstacle to extending the trail along the edge of this site is bridging the active commuter rail line passing over the river just downstream of the Fifth Street Bridge. Although this is an expensive proposition (estimated at \$1 million dollars) the City should consider it a long term project and pursue funding sources. This short extension would effectively bring the multi-use path to a point within a few minutes' walk of the commuter rail station and downtown Fitchburg.

3. Great American Chemical Site: This large, flat, vacant site provides a major opportunity for redevelopment or open space. Unfortunately, like so many former industrial sites, it is contaminated and will need remediation before it is reused. The linear site would have good access to a very pretty section of the river known as Duck Mill Pond. If the site is redeveloped for private use, the City should work with the property owners to secure an easement for a path along the river's edge. If possible, the path should connect to the multi-use path to provide a river edge option for path users.

4. Fifth Street Bridge: There are excellent views of the North Nashua River from the Fifth Street Bridge. Any maps or neighborhood walks that cross or pass near the bridge should encourage users to stop and enjoy the view.

5. River Bend: The bend in the river could be made visible from the sidewalk on Summer Street if brush and overgrowth are cleared from the steep embankment between the river and the street.



Programs & Non-Capital Projects

In addition to the place-specific physical recommendations outlined in the previous sections, there are many other opportunities for river-related events that will help raise awareness of, and continue to improve, the river’s image. Some of the ideas that came out of the workshop, and others that have been used in other cities, are outlined below:

River Art – Much of the North Nashua River in Fitchburg is hidden from view by trees, brush, and buildings – a casual passerby may not even realize it passes thought the heart of the city. A “find the river” art project would make the river visible through photography, painting, sculpture, poetry, and other media. The event could be a day long event where all types of artists are “turned loose” on the river with a show at the end of the day; a longer term event could exhibit pieces at different places around town. A river art event would be very inexpensive to organize and would provide ongoing awareness of the river. Such an event would also support the arts in Fitchburg.

Mapping and Signage – Another method for raising awareness of the river is to create a map showing the formal and informal places where the river can be seen, touched, or strolled along. Mapping efforts may range from simple maps neighborhoods or community groups develop to share knowledge of special places to published maps that are sold in local stores and document river access locations. Signage is also an important and inexpensive method for bringing people to the river. City sponsored programs could direct people to publicly accessible land (including privately owned land where public access is allowed) and private signage could invite people to designated locations to enjoy the river (e.g. the picnic area at Mill #3). Taken together, mapping and signage would provide a good start to bringing people to the river and making it more visible.

River Cleanup Days – Town-wide or river specific cleanup days encouraging volunteers to remove trash from the river and its banks provide an opportunity to involve

Flyer-postcard from Art Beat Somerville when the theme was the river



people in caring for the river. Fitchburg has a long successful history of public cleanup efforts. Although the river is much cleaner than it was in the 1960s and 70s, there are still several areas plagued by illegal dumping in addition to general wind borne litter. Cleanup days provide a vehicle for new residents and young people to get involved and foster appreciation for the river. Clean up days could be coordinated with the Nashua River Watershed Association’s North Nashua Stream Team.

Education – The river is currently used on a limited basis as an outdoor classroom by the Nashua River Watershed Association and the Middle School. Safe access is one impediment to student use since many areas of the river have steep slopes or the river is contained between large retaining walls constructed to prevent floods. The new North Central Charter School staff indicated the paucity of access in the area of their school though they have committed to including the river in their curriculum. The Fitchburg State College campus is just blocks from the downtown stretch of the river and could incorporate study and long term monitoring of the river into select programs.

Recreational Opportunities – Some recreational pursuits might require investment both in the short and/or long term to be viable while others need relatively minor, if any, resources. Some recreational activities generate large seasonal participation which may translate into discreet economic benefits for a community versus steady, year-



Photo of a mural in Somerville near the Mystic River – I-93 abutment



There are a number of locations along the North Nashua River such as here at the new Riverfront Park, where murals could reflect the river or Fitchburg’s industrial history.

round activities which provide more modest but sustained benefits to the economy of the local area. Some activities may require an investment to create infrastructure to operate and maintain needed services. There are five types of recreational opportunities that should be considered:

- Fishing - Hosting a fishing derby or a family fishing clinic would provide an opportunity to educate the public about the diversity of sport fish found in the river and introduce youth to an enjoyable activity. Local fishing clubs as well as the MA Division of Fish and Wildlife (see Angler Education Program sidebar) could be recruited to assist in these types of activities. Fishing is one of the least expensive methods of getting people to experience their river.
- Birding and Wildlife Viewing – Many sections of the river corridor are thoroughly developed with old mills, residential properties and roadways, but there are sections with thick vegetation, wetlands, waterways, or grasslands favored by certain bird species and small mammals. There is the potential for a small but rich wildlife viewing recreational sector.
- Historical, Cultural, and Natural History Tours — Workshop participants noted that viewing the mills from the river would offer a unique perspective of the inter-relationship of industry and river, and provide great views of the architecture of not only the mill

AEP

The MA Division of Fish and Wildlife’s Angler Education Program (AEP) has several components designed to foster public appreciation and understanding of our aquatic resources. The main components of the program are:

- family fishing festivals
- basic freshwater fishing classes
- freshwater fishing clinics
- basic ice fishing clinics

Volunteer instructors, in Workshop Groups across the state, teach people of all ages about fish, fishing and the value of aquatic resources. The program’s main goal is to stimulate public interest in our aquatic outdoors, through participation in sport fishing. Cosponsored by MA/RI Council of Trout Unlimited. Contact Jim Lagacy, Program Coordinator at 508-792-7270 or email him at Jim.Lagacy@state.ma.us.

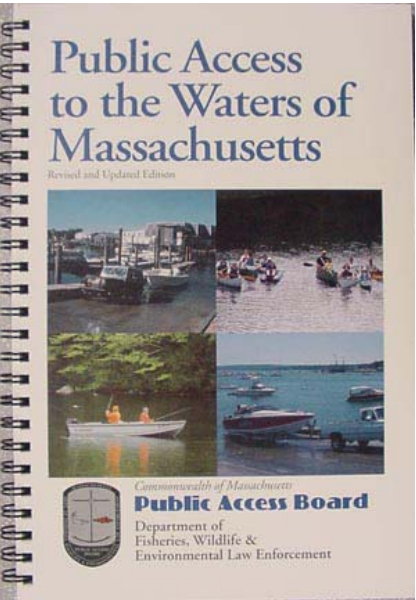
buildings but also the bridges, archways and walls lining and crossing the river, while offering the thrill of being on the water. A history tour, either by foot and/or boat, could be developed for the river section between the Mass Innovation Center and the new Riverfront Park just steps from downtown and City Hall.

- Boating – There are several options to getting people on the water. There are quieter stretches of the river and impounded waters behind dams that could be suitable for paddle boats, small row boats, canoes, kayaks, and possibly small boats if the river depths are adequate. The Public Access Board acquires property and easements for the purpose of providing access to Massachusetts waterways. The Board and its projects are funded by State and Federal sources and small user fees. There are also a number of options for making the North Nashua River attractive to whitewater boaters, including a race course and/or white water park. These are discussed in the appendix. Access, parking and safety are challenges to bringing boating to the river, but are not insurmountable.

Next Steps

This plan is a concept and ideas plan. Its intent is to document the ways in which the North Nashua River can be more integrated into the City of Fitchburg. Unlike many master plans, there is no straightforward implementation strategy, instead providing a series of ideas to explore and develop into projects and programs leading to more detailed planning, design, and implementation. Some of the ideas have been discussed among City officials, river advocates, and neighborhood groups and are closer to realization. These next steps focus on those shorter term projects:

- **Pipeline Park** – Securing the right-of-way for the pipeline park through easement or purchase should be relatively easy. Access at the Central Steam Plant will not be an issue because the property is in public ownership. Access at the east end of the path (Depot Street) will require negotiation with land owners. Access at the west end of the path may need to be phased to include an option with the walkway under the stone arch bridge and an option with access from the West Side Water Treatment plant property. Design can begin once easement feasibility is determined. One short-term option would be to formalize an unpaved hiking trail with the intention of building a graded path at a later date.



The Public Access Board (PAB) is charged with providing access to Massachusetts waterways. Presently, the agency oversees boat and canoe launch sites at over 200 coastal and inland locations in Massachusetts, giving residents and visitors extensive opportunities to enjoy fishing, canoeing, sailing, water skiing, and recreational boating statewide.

For more information please see: www.mass.gov/dfwele/pab/pab_toc.htm

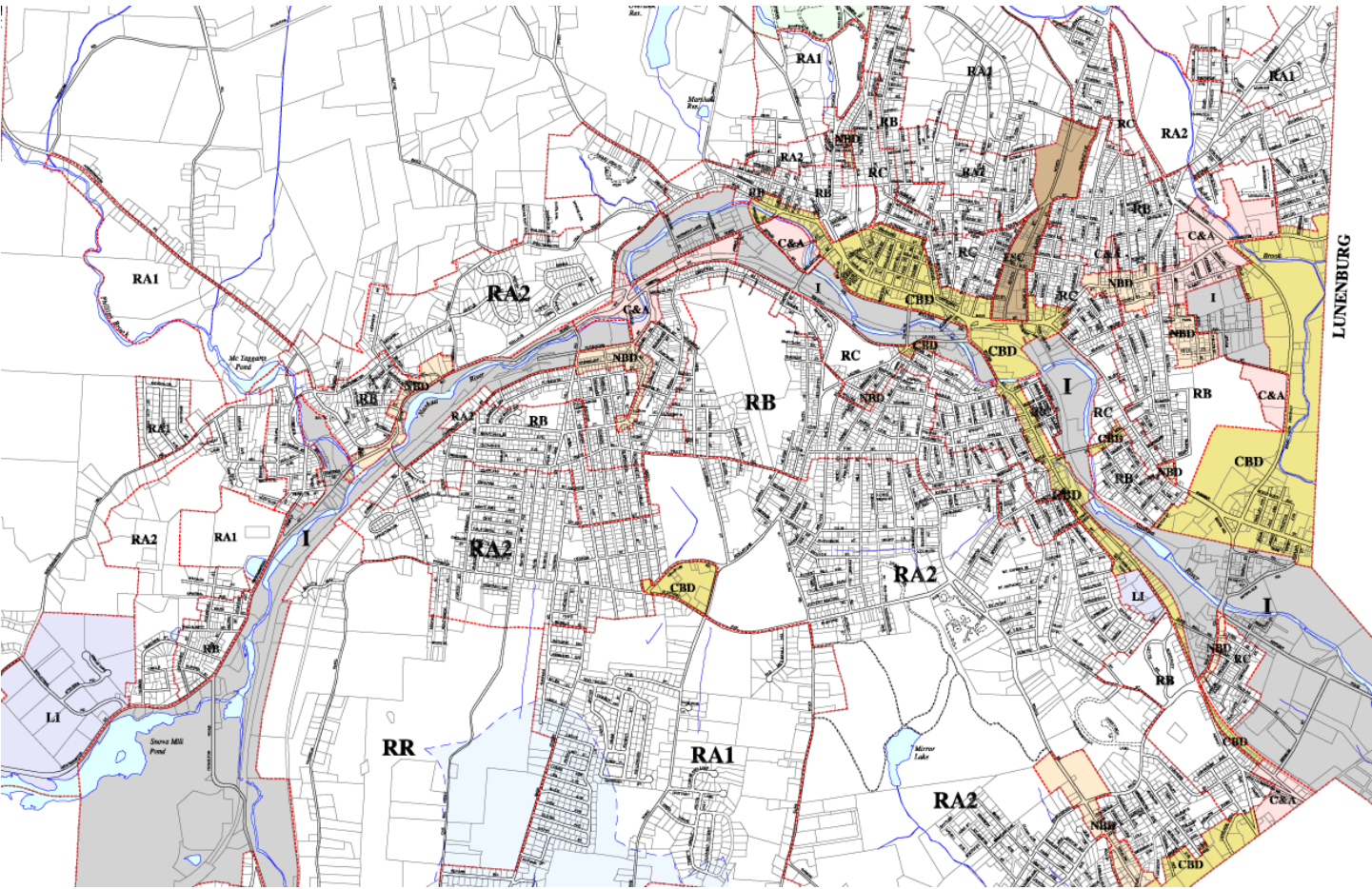
- **Regulatory/Zoning** – Much of the riverfront land is zoned for industrial use. Consideration should be given to adopting a river overlay district encouraging mixed use and requiring public access to the riverfront as uses change along the river. Incentive programs for property owners willing to provide easements along the river edge should be developed.
- **Sheldon Street** – The Sheldon Street property is currently for sale. Combined with adjacent City-owned property, it is a sizable piece of riverfront land. If purchased by the City, the property would create an excellent opportunity to build a neighborhood park. In addition to the amenity it will provide to the existing neighborhood, a public investment in this location could be leveraged to jump start redevelopment of adjacent mill properties. Alternatively, the City should work with existing and future owners to establish a site plan that will allow for a river edge walkway. There also may be opportunities for a public-private partnership in which the City builds the river edge open space as an incentive for a private developer to buy and develop other portions of the property. Planning for this site also should include a study of the feasibility of daylighting the stream (currently in a culvert) that enters the North Nashua River from the north.
- **Clearing** – Clearing brush and overgrowth, especially invasive species, at strategic locations along the river is a relatively inexpensive project that will create large benefits in the form of providing river views. Brush clearing could be done by the City DPW on public land and it could be offered as a service to private land owners. The City should work with the Conservation Commission and agent, the Stream Team, Nashua River Watershed Association, local arborists, landscape architects, and a river ecologist to ensure the correct plants are being cut and work will not negatively impact the river or wetlands.

- **Programs and Non-Capital Projects** – Many of the programs and non-capital projects listed on the previous page could be implemented in the short term. Some could be piggy backed onto other events like the Fitchburg-Longsjo Classic bike race or events at the new Riverfront Park. Each of these programs or ideas needs a sponsor and organizers.

Other, longer term, ideas outlined in this master plan need to be adopted by the City, property owners, or local activists. Once adopted as a project, on-going advocacy, feasibility analysis, identification of funding sources, land acquisition or easement, and design are typical steps in the process leading to implementation.



Developing a walkway along the pipeline is a short-term project amenable to a phased approach. The walkway would offer stunning views for pedestrians and a chance to improve habitat and bank stability in this area.



This portion of the Fitchburg zoning map shows the river and adjacent industrial land. Consideration should be given to adopting a river overlay district to encourage mixed use and require public access as uses and parcel ownership change along the river.

Appendix

River Recreation Opportunities in the North Nashua River Fitchburg, Massachusetts

Introduction:

Fitchburg, Massachusetts is endowed with the headwaters and a seven mile reach of the North Branch of the Nashua River. The river is a visible presence in the City both historically and currently. The river parallels the City’s busiest streets, crosses under dozens of road and rail bridges and hugs the heart of downtown Fitchburg. The miles of riverfront in Fitchburg sport hundreds of commercial and residential properties, historic mill buildings and open space. This sizeable river corridor affords the City an enviable range of river–based recreational opportunities and related benefits.

The advantages to developing or augmenting river-based pursuits in and along the river are plentiful. Increasing the visibility of the river and the functionality of the river for residents will enhance the quality of life and in turn the attractiveness of the City as a place to work, live and visit. Building a base of recreational activities will inevitably build a core group of river users. This core group of users will grow; providing a catalyst for additional activities and users attracted by the growing visibility of river- focused recreational opportunities. This can prove to be the start of an upward spiral where increasing recreational use builds an appreciation for the river and the community and an increasing will to protect and enhance the river and its corridor.

Recreational Opportunities:

Fishing

The Division of Fish and Wildlife recently completed a fish survey of the North Branch of the Nashua River. The survey’s result (see Figure 1) shows the river supports over 30 species of fish including Large Mouth Bass and Brown and Brook Trout. The river has several smaller, colder tributaries which are likely to support desired sport fish, too. The State runs an Urban Fishing Program offering workshops to teach youth and other interested individuals the basics of fishing using gear provided by the program. In addition, there are active fishing clubs and organizations in the area likely to assist in fishing education programs if asked. The Worcester area chapter of Trout Unlimited maintains a long-term interest in improving fish habitat and passage and promoting improved river management.

The U.S. Fish and Wildlife Service periodically assesses the fishing, hunting and wildlife–associated recreation on a national and state level. Their 2001 report estimated there were over 600,000 anglers in Massachusetts, who put in over 4.5 million fishing days in 2001, and spent over \$450 million dollars in the pursuit of an allusive trout or wily bass. The potential for year-round economic gains from the fishing populace is significant and it is a sport requiring modest investments by a community since little infrastructure is needed by anglers.

Hosting a fishing derby or a family fishing clinic would provide an opportunity to educate the public about the diversity of sport fish found in the river and introduce youth to an enjoyable activity. Local fishing clubs, as well as the MA Division of Fish and Wildlife could be recruited to assist in these types of activities. Fishing is one of the least expensive methods of getting people to experience their river. Fishing is highly inclusive because it re-

quires little skill and a modest investment in equipment to get started, the logistics are fairly easy, and most cities and towns have plenty of anglers willing to share their experience.

One impediment to fishing is safe public access to the river. There are two quiet water sections upstream from the steam plant offering a secluded wooded setting that may be the most ideal. This half-mile section of river, between the west side wastewater treatment plant and the steam plant, is slowed by two dams that create two small ponds connected by a short section of moving Class I water; some type of access would have to be created. Small paddle boats can float in the ponds and fishing can occur from boats or along the shore. Other sections where a fishing program could occur include in the Duck Mill Pond area and the section of moving water near the Sheldon Street bridge. Most potential sites in these areas are privately owned and therefore landowner cooperation would likely be necessary to obtain public access.

Should a public site be identified, the State’s Public Access Board offers design and construction services to communities desiring boat launch facilities on publicly owned property. The Public Access Board is able to construct ramps or car-top launching areas on rivers or lakes, with suitable parking amenities, for no cost to a community if the community is willing to guarantee reasonable maintenance of the access site, the site meets criteria and is selected. This possibility could be explored for increased access for anglers who might want to use small craft for fishing and for recreational boaters given the current paucity of access sites. The challenge would be to identify a publicly owned site suitable for river access with sufficient space for a parking. If a site is identified, the Public Access Board could evaluate the site and possibly add Fitchburg to its list of potential new projects.

Birding and Wildlife Viewing

The US Fish and Wildlife Report mentioned above contained notable figures about the amount of wildlife viewing undertaken in Massachusetts by residents and nonresidents combined. Like the statistics for anglers, wildlife viewers are a surprisingly large contingent of the outdoor enthusiasts enjoying the state’s natural resources. In 2001 nearly two million people engaged in some form of wildlife viewing in Massachusetts with the majority choosing to bird watch. This large number of birders, trackers and butterfly watchers managed to spend \$416 million dollars while pursuing their interest in the Commonwealth’s natural treasures.

American eel	Longnose dace
Bluegill	Redbreast sunfish
Black crappie	Redfin pickerel
Common shiner	Smallmouth bass
Central mudminnow	Spottail shiner
Brown bullhead	Tesselated darter
Banded sunfish	White perch
Brown trout	White sucker
Creek chubsucker	Yellow bullhead
Chain pickerel	Yellow perch
Brook trout	Swamp Darter
Fallfish	Sea Lamprey
Golden shiner	Pumpkinseed
Green sunfish	Blacknosed dace
Banded killifish	Bridle shiner
Largemouth bass	

Figure 1. MA Division of Fish & Wildlife Species, North Nashua Fish Survey, 2002

Fitchburg’s neighbor to the southwest, Mt. Wachusett, is second only to Hawk Mountain, NC in the number of raptors flying over the hill in their autumn migration. This concentration of birds translates into an influx of birders to watch thousands of hawks in their flight south. Bird watching and wildlife viewing, in general, is not confined to a few weeks in September. There were over 10 million wildlife viewing days in 2001 in Massachusetts and the varied habitats within the City offer opportunities for a range of wildlife viewing.

Fitchburg has good habitat for wildlife throughout a surprisingly large portion of the city. Many sections of the river corridor are thoroughly developed with old mills, residential properties and roadways, but there are sections with thick vegetation, wetlands, waterways, or grasslands favored by certain bird species and small mammals. There is the potential for a small but rich wildlife viewing recreational sector. Funding could be pursued to better map and quantify the habitat types, sizes and richness if this were of interest to help identify areas for protection, acquisition, educational opportunities and outreach. Viewing areas could potentially include signage, viewing platforms or blinds. Wildlife viewing has minimal impact to natural and city resources though issues of access and private property are significant impediments to those wishing to engage in these pursuits.

On the Water

The participants at the Waterfront Workshop were enthusiastic about the possibility of increasing water based activity on the Nashua River. With so many miles of river, it is a natural inclination to maximize boating and paddling activity. There are several options to getting people on the water. There are quieter stretches of the river and impounded waters behind dams that could be suitable for paddle boats, small row boats, canoes, kayaks, and even small power boats if the river depths are adequate. Access, parking and safety are challenges to bringing boating to the river, but are not insurmountable.

There are existing canoe and kayak liveries in the Nashua River Watershed which may find it profitable to expand operations to Fitchburg or perhaps a new or limited livery could be created. Interested individuals, without access to a canoe or kayak, could rent boats from the livery. The livery might enhance their rental service by offering a shuttle between start and end points so participants could do a oneway trip down the river. Local public transportation could also supply shuttle services using existing or expanded routes.

As mentioned above, participants at the Waterfront Workshop expressed a desire to create a historical tour. A boat livery would facilitate a successful water-based tour by providing residents and visitors with a means to undertake this sort of unique tour. The Historical Society or other appropriate group might consider leading limited guided historic tours for residents and possibly school groups as a way to generate revenue for the organization. A self-guided historical map and tour booklet, for both a river and a land based historic tour, is another option possible. A modest price could be charged to recover printing costs.

As with any on-the-water activity, conditions are inherently variable and there is a degree of risk involved. River flows in the summer can result in shallow depths and may limit access to some sections of the river for paddlers. High flows, such as those following spring snow melt or large storms, could prove too swift for inexperienced paddlers (see Figure 2). City emergency services might be required if expanded river rescue capacity is needed. These issues would need to be visited before considering this activity.

The river’s gradient in the City is exceptionally steep for this region, leading to seasonal white water flows in the river’s narrow channel. A series of dams spaced through the City, built to harness the river’s energy before the advent of cheap electricity, disrupt the natural flow and create quieter impounded areas. The segmentation of the river by the dams limits the length of contiguous river available to paddle and requires portaging boats around dams. The

Nashua River has a variable flow through the seasons - a roaring white water river in April could become a small brook in August (Figure 2). In the City of Lowell, a local land trust has capitalized on the seasonal variation in flow by offering spring-time white water rafting on the Concord River. An outfitter is contracted to provide weekend whitewater rafting trips for the public. Rafts have a skilled river rafter guiding the boat and all equipment is provided so people with no or limited experience can participate. The funds raised by the weekend trips subsidize weekday trips for the school children of the City. This is a model Fitchburg might wish to consider.

Several other whitewater paddling opportunities are possible in the North Nashua River. As illustrated in Figure 2, the high flows needed to produce whitewater would be available during the months of March, April and May and possibly at other times depending on flow conditions. Whitewater recreation is a more specialized sport than the other potential river recreation activities listed above. Whitewater kayaking requires skill, special equipment and some dedication to the sport if it is to be enjoyed safely. Despite some hurdles to getting started in the sport,

whitewater kayaking has grown markedly in the past few years. Statistics cite a 60% increase in the sport in just the past two years and 220% in the last five years. New England is at the forefront of this trend with the largest number of whitewater boaters in the U.S. (*Outdoor Recreation and Participation Spending Study: A State by State Perspective*, Outdoor Industry Foundation, 2002).

There are several different options to make the North Branch attractive to whitewater boaters. One would include removing some of the dams between the steam plant and the new Riverfront Park. This would create a 3 to 5 mile stretch of whitewater that would include Class II and Class III rapids. Riverways River Restore program is available to assist dam owners and communities with community outreach and technical assistance through the decision-making process.

Another whitewater recreation option for Fitchburg would be to develop a whitewater park. Whitewater parks are destination boating areas that are usually no bigger than 1/4 to 1/2 mile in length. Whitewater parks are gaining popularity rapidly throughout the United States.

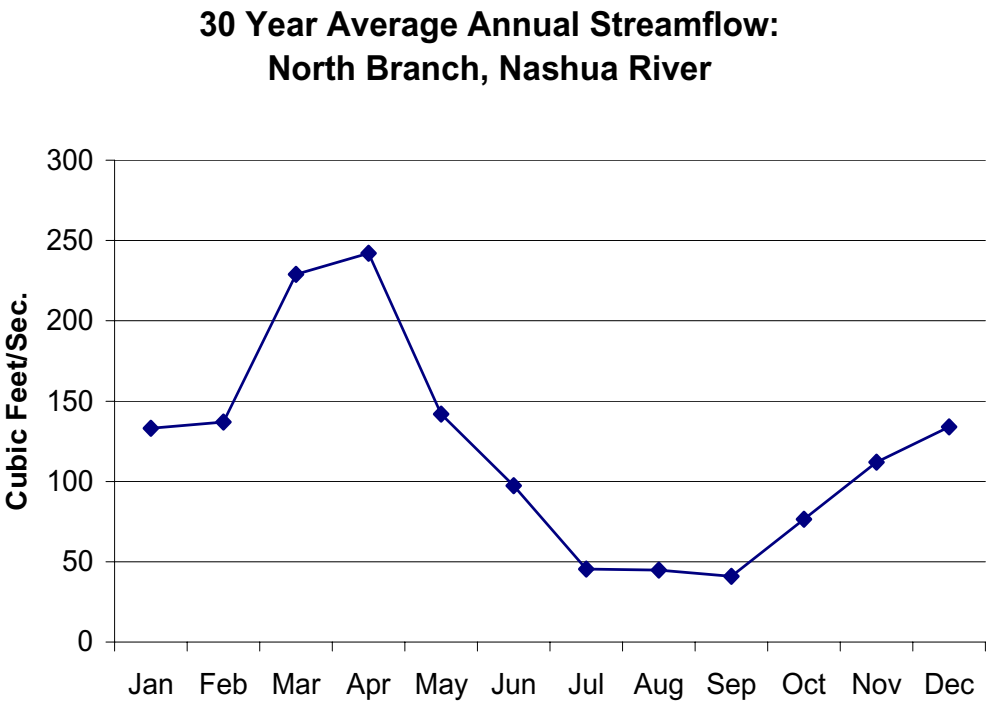


Figure 2. According the United States Geologic Survey, the North Branch flows are on average between 250 and 50 cubic feet per second (cfs) throughout the year. As a point of reference, approximately 200 cubic feet of water would fill up an average minivan. From a recreation perspective, it is important to equate this amount of water to depth. The depth of the water depends on the width of the river channel. Because most of the North Branch is fairly narrow (25 – 50 feet), 200 cubic feet of water is ample for small boats to navigate. The depth of water in the North Branch can vary from approximately 2 feet (at 250 cfs) to 2 inches (50 cfs). The water is most shallow during the months of July, August, and September.

Whitewater parks allow people to enjoy the activity in a short period of time without the logistical complications of shuttles. Many people are introduced to the sport around the age of 18, according to studies, so this may be an activity of interest to Fitchburg State College students. Whitewater is a spectator sport and whitewater parks allow spectators a place to watch and helps the City develop a community focal point. Whitewater races and rodeo events in some areas of the country are attended by four times more spectators than competitors

A whitewater park in Fitchburg could occur near Mill #3, the Mass Innovation Center, Riverfront Park or a little downstream from there. Park construction takes on a wide variety of options and budgets. Parks can be as complex as creating a “new” stream with artificial obstacles such as the \$3 million Olympic courses or they can be as low-tech as rearranging existing boulders to create play waves. Race courses are even easier. Race courses are created by simply stringing a series of temporary gates that hang just above the water through which racers are required to pass.

On the North Branch of the Nashua, the water flows are such that no new obstacles or artificial flows are needed to create a seasonal race course. Whitewater races can occur on many sections of the river under existing seasonal water flow conditions and with no changes to the channel. The stream channel would need some alterations to create the play waves that whitewater rodeo boaters seek to play in and use during competition. The alterations would include inserting boulders, rocks or logs to create the ideal waves. There are pros and cons to inserting obstacles. The obstacles constrict the flow which may not meet the river or flood management goals of the Army Corps of Engineers and there are other permitting issues related to stream channel alteration. There would be a challenge to finding suitable viewing sights in some of the developed stretches of the Nashua. Parking, a launching area, restroom facilities, crowd and traffic management, litter and safety issues would also need to be assessed. Whitewater pursuits would be seasonal on the North Nashua River so the cost/benefit would also need to be

analyzed; the level of participation by residents of the City may also factor into a discussion about whitewater recreation development.

Workshop participants wanted to know more about the possibility of traveling down the river for a longer trip. Depending on flow conditions, a longer paddling experience could be possible but would probably be more suitable for an experienced kayaker or rafting.

The extended trip would ideally start in downtown at the Riverfront Park. From there a boater could float for approximately four miles before reaching the first dam, ¼ mile down stream of the Fifth Street bridge. A second dam, at Duck Mill Pond, is located another ¼ mile down and creates flat water back nearly to nearly the first dam. If an extended trip beyond these dams is desired, a portage system would need to be developed to pass downstream. This may be accomplished through a trail that bypasses the two dams at once or by going around one, paddling for a short distance and portaging the next. Removing one or both of these dams may also be a long term goal of the City.

Once the two dams were portaged, boaters would enjoy a rather long trip through Leominster and Lancaster. Although they would encounter one dam along the way, after a portage around the Lancaster dam boaters could continue to the Oxbow National Wildlife Refuge. With three portages, a boater could leave Downtown Fitchburg and arrive in the Oxbow National Wildlife Refuge and enjoy one of the few multi-day river trips in Massachusetts. The trip would cover 20-25 miles and, with portages, require about 2 or 3 days depending on natural conditions. Camping along the river would be possible through agreements with private landowners.

Education

Art education and study could also be encouraged with a river focus. The river offers many outstanding vistas of both natural and architecturally interesting areas. These

areas lend themselves to a variety of formal and informal educational opportunities; programs could be arranged to avoid private property or challenging conditions such as steep slopes.

Wildlife viewing is also an enriching experience. Students could be taught about native flora and fauna, and potentially design and carry out research projects. Student could engage in beneficial activities both serving an educational purpose and improving the river or river corridor. For example, students could work to impede or eradicate invasive species.

Historical, Cultural and Natural History

During the Waterfront Workshop, many participants expressed an interest in highlighting the industrial and cultural history of the City and its river. The river is still lined with a number of historic mills, reflecting the mills’ dependence on the river to produce the fabrics and other goods that drove the City’s economy during the industrial revolution. Workshop participants noted that viewing the mills from the river would offer a unique perspective of the inter-relationship of industry and river, provide great views of the architecture of not only the mill buildings but also the bridges, archways and walls lining and crossing the river, and offer the thrill of being on the water. A history tour, either by foot and/or boat, could be developed for the river section between the Mass Innovation Center and the new Riverfront Park just steps from downtown and City Hall. There are potential put-in and take-out sites at these two terminuses if a river tour was developed. There is one small dam, marking the site of one of the old Fitchburg mills, that offers a small impediment to passage between these two end points. A portage might be possible or the small dam could be removed.

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